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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/768,312 | 01/30/2004 | Stephen E. Terry | I-2-0192.4US | 6325 |

24374 7590 06/23/2006

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| EXAMINER | |
|---|---|
| MILORD, MARCEAU | |
| **ART UNIT** | **PAPER NUMBER** |
| 2618 | |

DATE MAILED: 06/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/768,312 | TERRY ET AL. | |
| | Examiner | Art Unit | |
| | Marceau Milord | 2618 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *30 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 4, 18 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4, 6-7, 10-11 of U.S. Patent No. 6909901 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because the removal of the features of a means for each of the designated UEs to set up transmission parameters in response to the allocation signal; and means for the base station to transmit the downlink data to the designated UEs in accordance with the established priority is not non-obvious over the claims of 6909901 B2 and therefore is not patentably distinct from each other.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ward et al (US Patent No 5701294) in view of Hashem et al (US Patent No 6721569 B1).

Regarding claims 1 and 5, Ward et al discloses a wireless digital communication system (figs. 3 and 6) for prioritizing the forwarding of blocks of downlink data, the system including a base station and a plurality of user equipment mobile terminals, the system comprising: means for the base station to receive blocks of downlink data for distribution to designated ones of the plurality of UEs; means for the base station to transmit to each of the designated UEs a request for a downlink channel quality measurement to be performed (col. 7, lines 27-42;col. 3, lines 39-56; col. 5, lines 8-19); means for each of the designated UEs to perform the downlink channel quality measurement; and means for the base station to transmit the downlink data to the designated UEs in accordance with the established priority (figs. 6-7; col. 6, line 46- col. 7, line 16; col. 7, line 30- col. 8, line 55).

However, Ward does not specifically disclose the features of a means for each of the designated UEs to transmit the results of the downlink channel quality measurement to the base station; means for the base station to establish a priority for the designated UEs based on the results of the downlink channel quality measurements; means for the base station to transmit an allocation signal to each of the designated UEs; means for each of the designated UEs to set up transmission parameters in response to the allocation signal.

On the other hand, Hashem et al, from the same field of endeavor, discloses a method and apparatus for selecting and signaling the identity of sub-carriers to be used for transmission of data in a radio communication system, and for using other sub-carriers. A remote unit determines which sub-carriers are acceptable for use in data transmission by comparing the signal to

interference ratio of each sub-carrier with a threshold. A base station transmits data over the acceptable sub-carriers at the optimum link mode or link modes (col. 2, lines 25- 66). Furthermore, the remote unit may calculate the average channel quality of groups of sub-carriers whose channel quality is above the threshold, in which case the average channel quality is transmitted to the base station. The base station receives a return signal, and extracts from the return signal a sequence of numbers, and at least one value by which the base station can determine at least one link mode. In addition, the base station may allocate for data transmission at low transmission rate sub-carriers within some of the remaining unacceptable sub-carriers, and may divert transmission power from the remaining unused unacceptable sub-carriers to other sub-carriers (col. 3, lines 3-39; col. 4, line 4- col. 5, line 54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Hashem to the communication system of Ward in order to allocate time slots based upon the estimated radio channel quality and achieve optimum voice quality over a broad range of carrier to interference ratio conditions.

Regarding claim 2, Ward et al as modified discloses a wireless digital communication system (fig. 3A and fig 6) for prioritizing the forwarding of blocks of downlink data, wherein the allocation signal indicates a particular coding rate, modulation type and at least one allocated slot (col. 3, lines 10-35; col. 3, line 43- col. 4, line 15).

Claim 3 is similar in scope to claim 1, and therefore is rejected under a similar rationale.

Regarding claims 4 and 6, Ward et al discloses a wireless digital communication system (fig. 3A and fig 6) including a base station and plurality of user equipment mobile terminals, a method for prioritizing the forwarding of blocks of downlink data, the method comprising: the

base station receiving blocks of downlink data for distribution to designated ones of the plurality of UEs; the base station transmitting to each of the designated UEs a request for a downlink channel quality measurement to be performed; each of the designated UEs performing the downlink channel quality measurement (col. 7, lines 27-42;col. 3, lines 39-56; col. 5, lines 8-19).

However, Ward does not specifically disclose the steps of transmitting the results of the downlink channel quality measurement to the base station; the base station establishing a priority for the designated UEs based on the results of the downlink channel quality measurements; the base station transmitting an allocation signal to each of the designated UEs; each of the designated UEs setting up transmission parameters in response to the allocation signal; and the base station transmitting the downlink data to the designated UEs in accordance with the established priority.

On the other hand, Hashem et al, from the same field of endeavor, discloses a method and apparatus for selecting and signaling the identity of sub-carriers to be used for transmission of data in a radio communication system, and for using other sub-carriers. A remote unit determines which sub-carriers are acceptable for use in data transmission by comparing the signal to interference ratio of each sub-carrier with a threshold. A base station transmits data over the acceptable sub-carriers at the optimum link mode or link modes (col. 2, lines 25- 66). Furthermore, the remote unit may calculate the average channel quality of groups of sub-carriers whose channel quality is above the threshold, in which case the average channel quality is transmitted to the base station. The base station receives a return signal, and extracts from the return signal a sequence of numbers, and at least one value by which the base station can determine at least one link mode. In addition, the base station may allocate for data transmission

at low transmission rate sub-carriers within some of the remaining unacceptable sub-carriers, and may divert transmission power from the remaining unused unacceptable sub-carriers to other sub-carriers (col. 3, lines 3-39; col. 4, line 4- col. 5, line 54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Hashem to the communication system of Ward in order to allocate time slots based upon the estimated radio channel quality and achieve optimum voice quality over a broad range of carrier to interference ratio conditions.

Regarding claims 7 and 9, Ward et al discloses a wireless digital communication system (fig. 3A and fig. 6), for prioritizing the forwarding of blocks of downlink data, the system including a base station and a plurality of user equipment, the system comprising: means for the base station to transmit to each of the UEs a request for a downlink channel quality measurement to be performed (col. 7, lines 27-42;col. 3,lines 39-56; col. 5, lines 8-19); means for each of the UEs to measure the downlink channel quality measurement to the base station (col. 5, lines 19-67; col. 7, line 44- col. 8, line 16).

However, Ward does not specifically disclose a means for the base station to transmit a downlink physical channel allocation signal to the UE associated with the highest reported downlink channel quality measurement; means for the UE associated with the highest downlink channel quality measurement to set up transmission parameters based on the allocation signal; and means for the base station to transmit at least one block of the downlink data to the UE associated with the highest downlink channel quality measurement.

On the other hand, Hashem et al, from the same field of endeavor, discloses a method and apparatus for selecting and signaling the identity of sub-carriers to be used for transmission of

data in a radio communication system, and for using other sub-carriers. A remote unit determines which sub-carriers are acceptable for use in data transmission by comparing the signal to interference ratio of each sub-carrier with a threshold. A base station transmits data over the acceptable sub-carriers at the optimum link mode or link modes (col. 2, lines 25- 66). Furthermore, the remote unit may calculate the average channel quality of groups of sub-carriers whose channel quality is above the threshold, in which case the average channel quality is transmitted to the base station. The base station receives a return signal, and extracts from the return signal a sequence of numbers, and at least one value by which the base station can determine at least one link mode. In addition, the base station may allocate for data transmission at low transmission rate sub-carriers within some of the remaining unacceptable sub-carriers, and may divert transmission power from the remaining unused unacceptable sub-carriers to other sub-carriers (col. 3, lines 3-39; col. 4, line 4- col. 5, line 54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Hashem to the communication system of Ward in order to allocate time slots based upon the estimated radio channel quality and achieve optimum voice quality over a broad range of carrier to interference ratio conditions.

Regarding claim 8, Ward et al as modified discloses a wireless digital communication system (fig. 3A and fig. 6), for prioritizing the forwarding of blocks of downlink data, the system including a base station and a plurality of user equipment, wherein the allocation signal indicates a particular coding rate, modulation type and at least one allocated slot (col. 3, lines 10-35; col. 3, line 43- col. 4, line 15).

Regarding claims 10 and 12, Ward et al discloses a wireless digital communication system, (fig. 3A and fig. 6), including a base station and plurality of user equipment mobile terminals, a method for prioritizing the forwarding of blocks of downlink data, the system including a base station and a plurality of user equipment, the method comprising: the base station transmitting to each of the UEs a request for a downlink channel quality measurement to be performed (col. 7, lines 27-42;col. 3, lines 39-56; col. 5, lines 8-19); each of the UEs measuring the downlink channel quality measurement to the base station (figs. 6-7; col. 6, line 46- col. 7, line 16; col. 7, line 30- col. 8, line 55).

However, Ward does not specifically disclose the steps of reporting the results of the downlink channel quality measurement to the base station; the base station transmitting a downlink physical channel allocation signal to the UE associated with the highest reported downlink channel quality measurement the UE associated with the highest downlink channel quality measurement setting up transmission parameters based on the allocation signal; and the base station transmitting at least one block of the downlink data to the UE associated with the highest downlink channel quality measurement.

On the other hand, Hashem et al, from the same field of endeavor, discloses a method and apparatus for selecting and signaling the identity of sub-carriers to be used for transmission of data in a radio communication system, and for using other sub-carriers. A remote unit determines which sub-carriers are acceptable for use in data transmission by comparing the signal to interference ratio of each sub-carrier with a threshold. A base station transmits data over the acceptable sub-carriers at the optimum link mode or link modes (col. 2, lines 25- 66). Furthermore, the remote unit may calculate the average channel quality of groups of sub-carriers

whose channel quality is above the threshold, in which case the average channel quality is transmitted to the base station. The base station receives a return signal, and extracts from the return signal a sequence of numbers, and at least one value by which the base station can determine at least one link mode. In addition, the base station may allocate for data transmission at low transmission rate sub-carriers within some of the remaining unacceptable sub-carriers, and may divert transmission power from the remaining unused unacceptable sub-carriers to other sub-carriers (col. 3, lines 3-39; col. 4, line 4- col. 5, line 54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Hashem to the communication system of Ward in order to allocate time slots based upon the estimated radio channel quality and achieve optimum voice quality over a broad range of carrier to interference ratio conditions.

Regarding claim 11, Ward et al as modified discloses a method for prioritizing the forwarding of blocks of downlink data, in a wireless digital communication system, (fig. 3A and fig. 6), wherein the allocation signal indicates a particular coding rate, modulation type and at least one allocated slot (col. 3, lines 10-35; col. 3, line 43- col. 4, line 15).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marceau Milord whose telephone number is 571-272-7853. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MARCEAU MILORD

Marceau Milord
Primary Examiner
Art Unit 2618